UNIT 9 DECISION-MAKING AND PROBLEM-SOLVING

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9.1 INTRODUCTION

This unit focuses on two key management functions in schools: Decision-making and Problem-solving. Exceptions apart, the work performed by school heads involves or is related to decision making in the institution. Problems are addressed. Choices are made. Resources are committed. Consequences are experienced. These decisions have the potential to have a considerable impact on the school and its members.

9.2 OBJECTIVES

After going through this unit, you should be able to:

- define decision-making and problem-solving;
- explain the importance of decision-making and problem-solving skills;
- understand the types of decisions and decision-making styles;
- describe the attributes of an effective decision maker;
- discuss a model for problem-solving; and
- apply the model as a way to improve your decision-making styles.

9.3 CLARIFYING PROBLEM-SOLVING AND DECISION-MAKING

To begin, let's clarify what we mean by problem solving and decision-making and how they relate to one another and why it is important to the functioning of a head teacher.

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Problem-solving

Problem solving is a set of activities designed to analyse a situation systematically and generate, implement, and evaluate solutions. This involves the seeking of solutions to problems that arise in an institution. The problem-solving process leads to formulation of decisions intended to resolve the recognized problems.

Decision-making

Decision-making is a mechanism for making choices at each step of the problem-solving process. This is the process of identifying and selecting a course of action from two or more courses of action to be taken to solve a problem. It can further be defined as the process through which information, ideas, objectives and knowledge are brought together for action. Decision-making is a part of problem-solving, and decision-making occurs at every step of the problem-solving process.

9.4 APPROACHES TO PROBLEM-SOLVING

There are many approaches to problem-solving, depending on the nature of the problem and the people involved in the problem.

Rational Approach

The rational approach involves clarifying, giving description of the problem, analysing causes, identifying alternatives, assessing each alternative, choosing one, implementing it, and evaluating whether the problem was solved or not.

Appreciative Inquiry

This approach asserts that "problems" are often the result of our own perspectives on a phenomenon. For example, if we look at a particular situation as a "problem," then it will become one and we'll probably get very stuck with the "problem". Appreciative inquiry includes identification of our best times about the situation in the past, wishing and thinking about what worked best then, envisioning what we want in the future, and building from our strengths to work toward our vision.

Activity

A) List the various problems you encounter as a school head. For example:

- *Students coming late*
- *Teachers coming late*
- *Corporal punishment*
- *Bullying by some students*
- *Financial problems in running the institution*

B) Describe briefly your approach to solving any three problems.

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As you prepare this list you will also appreciate the need for decision-making in problem solving.

9.5 NEED AND SIGNIFICANCE OF PROBLEM-SOLVING AND DECISION-MAKING

A problem is an intricate unsettled question: a source of perplexity, distress or vexation. It refers to the existence of a gap between where a person is and where he/she would like to be.

School heads have to make decisions because they have their set of problems. Having effective problem-solving and decision-making skills would help them to:

- make decisions more rationally and wisely.
- recognise that we really do have a choice about many important things in our lives.
- avoid making decisions sloppily or by default.
- avoid a variety of irrational ideas, false assumptions, fears, needs, and other emotions that block good decision-making.

9.6.1 Decision-making Process

The basic characteristics of decision-making are as follows:

- It is the process of choosing a course of action from among the alternative courses of action.
- It is a human process involving to a great extent the application of intellectual abilities.
- It is the end process preceded by deliberation and reasoning.
- It is mostly related to the environment. A decision may be taken in a particular set of circumstances and another in a different set of circumstances.
- It involves a time dimension and a time lag.
- It always has a purpose. Keeping this in view, there may just be a decision not to decide.
- It involves multiple actions like defining the problem and probing and analyzing the various alternatives before a final choice is made.

The decision-making process comprises the following components:

- The decision-maker
- The decision problem
- The environment in which the decision is to be made
- The objectives of the decision maker
- The alternative courses of action
- The outcome expected from various alternatives
- The final choice of the alternative

The stages of decision making are indicated in Figure 9.1

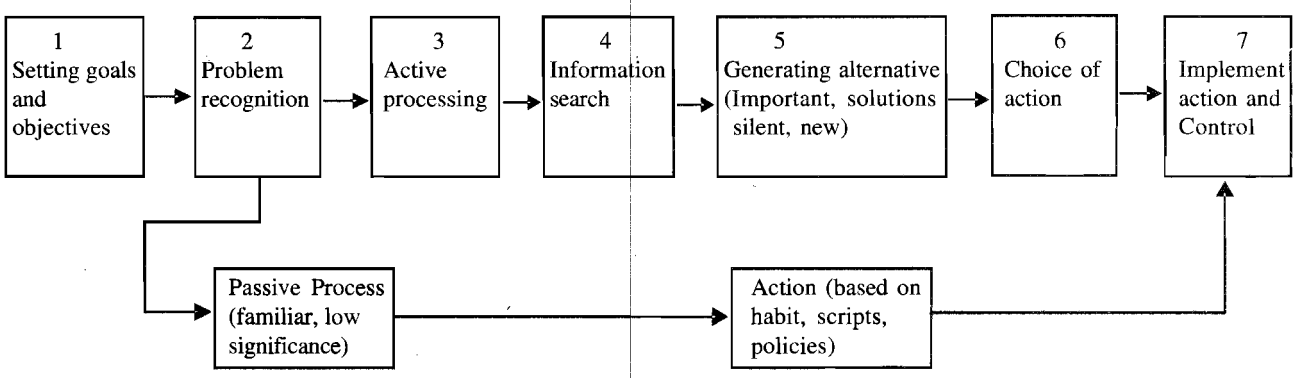

Fig. 9.1: Stages of Decision-making

The first leg of decision-making is goals and objectives. The second stage is problem recognition. Here the decision-maker has to be alert to know what is happening and also to recognize the discrepancies which exist. During the third stage, the decision-maker must evaluate the discrepancy whether it is an important one or not. Next, it has to be found out how the problem occurred i.e., 'information-search phase'. This stage is crucial but least handled well. In the next stage 'course of action' must be explored i.e., number of alternatives be explored. This is the 'alternative-generation' phase. Next comes the evaluation of alternatives that is the 'choice phase'. Here the pros and cons of each alternative have to be thought about before taking a decision which is known as choice of action. The last phase of the process involves the implementation and evaluation of the decision.

9.5.2 Types of Decisions

A decision is a determination arrived at after consideration, a conclusion. It is the strategic implementation of a resolution to a problem.

Decisions may be classified into five major types. These are:

- Organisational and personal decisions
- Routine and strategic decisions
- Policy and operating decisions
- Programmed and non-programmed decisions
- Individual and group decisions

Let us discuss each type in brief.

i) **Organizational and personal decisions:** personal decisions are those decisions that cannot be delegated to others. These decisions are meant only to achieve personal goals. Organisational decisions are those decisions that are taken to achieve organizational goals. For example, you want to solve food habits related problems of your students. Advising them to take nutritious food is a personal decision. Your school students do not perform well in science and maths. As head teacher you discuss this issue with teachers and decide to use different teaching methods to improve the performance of the students. These are for organizational goals because good performance enhances the credibility of the school.

Activity

Illustrate with reference to your school on what occasions you had to take organizational or personal decisions.

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ii) **Routine and strategic decisions:** Routine decisions are those which are repetitive in nature. For example, certain established rules, procedures and policies are to be followed. When a teacher goes on leave you engage another teacher who is free at that time to take the class. This is a routine decision. 'Strategic' decisions are those decisions which have to be deliberated upon in depth. For example, highlighting the characteristics of the school, before giving an advertisement for admissions, can bring more revenue to the school.

Activity

Cite an example with reference to your school regarding a strategic decision.

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iii) **Policy and operating decisions:** Policy decisions are those decisions which are taken at the higher level. For example, fixing pay scales for teachers or developing a new curriculum framework. Operating decisions are those decisions which lay down procedure of execution of the policy made. For example, how to disburse the arrears accumulated to a teacher (e.g. calculations) or implementing the national curriculum in the framework of your school.

Activity

What operating decisions you would take to implement the new curriculum.

Hint: (i) Teacher training, (ii) New or additional resources

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iv) **Programmed and non-programmed decisions:** Non-programmed decisions are those decisions which are unstructured. For example, if a child is often absent, as head teacher you may analyse the reasons for his/her absenteeism from the information provided by the child and then help the child to improve the situation. Whereas programmed decisions are of routine type and repetitive in nature. For example, when should children take their breakfast, lunch or when term-end exams have to be conducted.

Activity

Differentiate between programmed and non-programmed decisions citing appropriate examples.

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v) **Individual and group decisions:** A decision taken by an individual in the organisation is known as 'individual' decision, where autocratic style of functioning prevails. For example, if only the head teacher takes a decision without the participation of teachers, it is an individual decision. 'Group' decisions are collective decisions which are taken by a committee with a proper representation. For example, decisions taken collectively by parents, teachers and head teacher for the welfare of students.

Activity

Cite examples where you have taken group decisions.

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Decisions can also be classified on the basis of dimensionality i.e., complexity of the problem and certainty of outcome of following the decision. These are described below:

Mechanistic decisions: Mechanistic decisions are routine and repetitive in nature where the outcomes are known. For example, if a child misbehaves in the class, you reprimand the child.

Analytical decisions: In this type of decision one has to analyse the situation and take a decision. For example, if students are not performing well in science, the reasons have to be explored. It can be because of the teacher or the method of teaching science followed, lab-facilities provided, etc.

Adaptive decisions: In this kind of decision outcomes are not known which are often unpredictable. It varies from situation to situation. For example, you take a decision to introduce a new area of learning in the school where you have no prior experience of the outcome.

Activity

Analyse the decisions you have made in the past years as head teacher. Categorise them into the above type of decisions.

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9.6 DECISION-MAKING STYLES

There are four styles of decision-making based on who makes the decision:

Individual decision-making

In individual decision-making, the leader must make the decision alone, and input from others is limited to collecting relevant information.

Decision-making through consultation

In consultation, the leader discusses the issue with one or more people-seeking ideas, opinions, and suggestions-and then makes a decision. The leader considers the input of others, but the final decision may or may not be influenced by it.

Group decision-making

In this case, the leader and others work together until they reach a consensus decision. Each group member's opinion and point of view is considered. As a result of participating in the decision making, group members buy into the final decision and commit to supporting its implementation.

Delegating the decision

When delegating a decision, the leader sets the parameters, and then allows one or more colleagues to make the final decision. Although the leader does not make the decision, he or she supports it.

Activity

1. *Make a few notes on the extent to which you encourage members of your staff to take part in decision-making in various areas.*
2. *Prepare a list of those factors that you believe can adversely affect decision-making.*
3. *What in your view is good decision-making style? Justify your view.*

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9.6.1 Attributes of an Effective Decision-maker

Effective decision makers tend to have the following attributes:

- **Knowledge:** The most important requirement for making sound decisions is a deep understanding of all factors. The soundness of the decision depends on how informed the decision maker is.
- **Initiative:** Effective decision makers assume responsibility for beginning the decision-making process and seeing it through. They take an active part in making things better.
- **Advice seeking:** Good decision-makers know that they need help from others. They identify people who can make specific contributions to the decision-making process and ask them for their advice and counsel.

- **Selectivity:** Effective decision makers seek pertinent data. They avoid getting bogged down by extraneous facts and figures.
- **Comprehensiveness:** On the other hand, they look at all available options and consider every possible alternative so as to make the best choice.
- **Currency:** Good decision makers consider current conditions and take advantage of opportunities that exist at the time.
- **Flexibility:** Effective decision makers remain open-minded about new concepts and ideas. They are willing to change course or try a different approach if better results seem likely.
- **Good judgment:** Sound decisions will not always result from merely following procedures. Decision-makers must exercise their best judgment in considering factors particular to the situation.
- **Calculated risk-taking:** The risks and results of various alternatives must be weighed and the consequences accepted, whether positive or negative.
- **Self-knowledge:** Good decision makers know their own abilities, biases and limitations well.

Activity

Identify your strengths and weakness as a decision maker.

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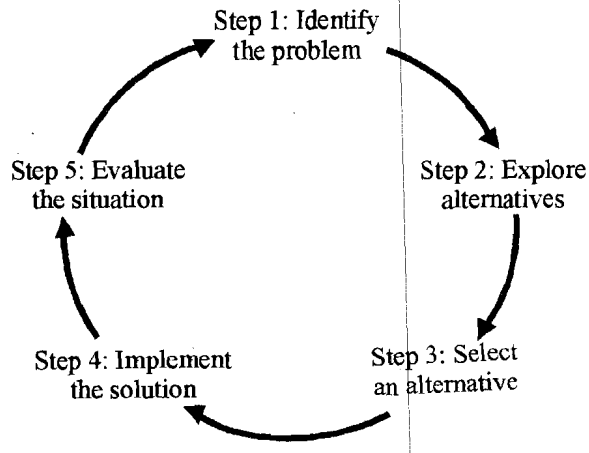
9.7 PROBLEM-SOLVING MODEL

There are many different decision-making / problem-solving models that you can use. The five-step model shown below has proven effective in emergency situations. It is not necessary to document each step, but it is important to think through every step.


Step 1: Identify the problem
Step 2: Explore alternatives
Step 3: Select an alternative
Step 4: Implement the solution
Step 5: Evaluate the situation

Step 1 - Identify the problem

Problem identification is undoubtedly the most important and the most difficult step in the process. All subsequent steps will be based on how you define and assess the problem at hand. A problem is a situation or condition of people or the organization that exist but members of the institution consider that undesirable.

Delineating the problem parameters

Identifying the problem also involves analysing the situation to determine the extent of the problem. Problem parameters include:

- What is happening (and is not happening)?
- Who is involved?
- What the stakes are?

Presented below is a checklist for identifying, defining, and analysing problems. The checklist presents a set of questions that can help you define a problem accurately.

Checklist for identifying, defining, and analysing problems

1. Is this a new problem?
2. Is the problem clearly and precisely stated?
3. What assumptions am I making about the problem? Are they true?
4. What would happen if nothing were done about this problem?
5. Can the problem be restated in other terms? If yes, how?
6. What data are known that have bearing on the problem?
7. Is the information accurate?
8. Are there any precedents or rules about other procedures that apply to the problem? If so, what precedents or rules apply?
9. What additional facts are needed to analyze the problem? (List them)
10. Do I have to make this decision, or will someone else? If this decision is someone else's to make, whose is it?

Activity

Think of a problem situation in your school and then prepare a checklist to identify and define the problem.

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Step 2 - Explore alternatives

The second step in the decision-making process is to explore alternative solutions to the problem identified in step 1. This step really consists of two parts:

- Generating alternatives
- Evaluating alternatives

Techniques for generating alternatives

There are three ways to generate alternatives:

- Brainstorming can be done individually or in a group. Brainstorming requires an environment in which the participants (individuals or group members) are free to "think out loud." Participants blurt out as many ideas as possible within a specified time period. No evaluation of ideas is permitted so as to encourage the free flow of creative ideas.
- Surveys economically tap the ideas of a large group of respondents. Surveys present respondents with the problem and a series of alternative solutions.
- Discussion groups should consist of those who are directly involved in decision making.

Step 3 - Select an alternative

The third step in the problem-solving model is to select one of the alternatives. After you have evaluated each alternative, one should stand out as coming closest to solving the problem with the most advantages and fewest disadvantages.

However, implementing the solution may not be easy. Carefully consider how the solution will be implemented before selecting an alternative. Selecting an alternative is a critical step in the problem-solving process.

When selecting an alternative, the following factors may play a major role:

- Political factors
- Safety factors
- Financial factors
- Ethical factors
- Environmental considerations

The following four criteria have to be kept in mind for making the right choice among available alternatives:

- Risk
- Economy of effort
- Timing
- Limitation of resources

Step 4 - Implement the solution

The fourth step involves the following.

- Develop an action plan

  Implementation requires a series of steps to:

  — articulate who has to do what, with what resources, by what time, and toward what goal

  — identify who must know about the decision

- Determine objectives

  Objectives are measurable targets that are:

— used to monitor progress and establish priorities.

— based on analysis of the situation and contingencies.

- Identify needed resources

  Resources include people, information (data), and things. Ask yourself:

  — what resources do I need?

  — where will I get them?

  — how long will it take?

  — what can others offer?

  — are there any special requirements?

- Build a plan

  Your plan should state:

  — who will do?

  — will do what (and with whom)?

  — by when?

  — where?

  — how?

- Implement the plan

  Use the action plan to put the decision in place.

Step 5 - Evaluate the Situation

Evaluation involves two parts:

- monitoring progress

  — has the situation changed?

  — are more (or fewer) resources required?

  — is a different alternative solution required?

- evaluating the results

Monitoring the success and results of a decision is an ongoing process that is critical to fine tuning a course of action.

Problem-solving hints and wisdom

- Take time to examine and explore the problem thoroughly before setting out in search of a solution. Often, to understand the problem is to solve it.
- Breaking the problem into smaller parts will often make solving it much easier. Solve each part separately.
- The resources for problem-solving are immense and ubiquitous.
- You can always do something.
- A problem is not a punishment; it is a challenge and an opportunity to increase the happiness of the world, an opportunity to show how powerful you really are.

- The formulation of a problem determines the range of choices: the questions you ask determine the answers you receive.
- Be careful not to look for a solution until you understand the problem, and be careful not to select a solution until you have a whole range of choices.
- The initial statement of a problem often reflects a preconceived solution.
- A wide range of choices (ideas, possible solutions) allows you to choose the best from among many.
- People work to implement their own ideas and solutions much more energetically than they work to implement others' ideas and solutions.
- Remember the critical importance of acceptance in solving problems. A solution that is technologically brilliant but socially not appealing is not a good solution.
- When the goal state is clear but the present state is ambiguous, try working backwards.
- Procrastinators finish last.
- Denying a problem perpetuates it.
- Solve the problem that really exists, not just the symptoms of a problem, not the problem you already have a solution for, not the problem you wish existed, and not the problem someone else thinks exists.
- A maker follows a plan; a creator produces a plan.
- Creativity is the construction of new things out of old things, through effort and imagination.

Case 1

Mr. Singh is the head teacher of a leading school in Azadpur city. The school is rated among top 10 schools of India. The school has been built by assiduous efforts of Mr. Singh over last 10 years as he has always focussed on quality of students rather than the fee-paying capacity of their parents. The school has large number of facilities that include a good library, swimming pool, gym, computer lab and a sports club.

However, as the competition is increasing the school is facing crunch of funds to maintain the quality of education and stay among the top rated schools. Only last year the school ranking has dropped by two points largely for low rating on quality of school infrastructure. The situation is compounded by the increasing inflation making the various facilities being offered by school more expensive and also the increase in the salary of the staff.

Mr. Singh has to thus raise funds by almost 50% to meet the increasing requirements. He is in a dilemma. How should he go about it? What other alternatives he has?

Case Analysis

Identify the problem:

- What is happening (and is not happening)?
  - Increasing competition
  - Need to invest funds for upgradation / maintenance of facilities offered by school

  - School has students spanning from upper to lower socio-economic strata
- Who is involved?
  - Students
  - Parents
  - School management
  - Teachers
- What the stakes are?
  - Ensuring top quality of education to the students
  - Reputation / Standing of the school

Problem Definition

School needs to generate 50% extra funds vs. the current levels. However, not all students would be able to pay for such a steep hike in fees.

Explore Alternatives

- Generating Alternatives through:
  - Brainstorming with a group of teachers to generate ideas.
  - Evaluating the likely response of the ideas generated within a core group
- Identification of possible areas of raising funds
  - Monthly fees,
  - School admission fee (Donations etc.),
  - Charity shows,
  - Renting of school resources (play-ground, auditorium etc.)
  - Use of premium facilities like Computer lab, Sports Club, Pool etc.
- Graded fees structure based on the economic status of the student.
- Across the board fee hike but giving scholarships to the deserving students (economic criterion)
- Managing and controlling school expenditure
- Combination of the above

Selection of Alternatives

Doing internal assessment of the feasibility of various ideas:

- Political factors: Does the law of land allow graded fee structures?
- Safety factors: Acceptability of the solution to the parents. Least the school can take at this stage is to gain unpopularity based on its decisions.
- Financial factors: Does implementation of various solutions give a cost benefit or could there be hidden pitfalls?
- Ethical factors: Would the school be seen as discriminating against students?
- Environmental considerations: What are other competitive schools doing?

The following four criteria have to be kept in mind for making the right choice among available alternatives:

- Risk: Does the school run the risk of adversely affected by various political / safety / financial / ethical / environmental factors?
- Economy of effort: The suggested method of selecting the alternative should not mean a big cost for the institution. Can the school afford a survey with all the parents or would it like to do a random survey? Can school manage renting of resources and yet earn profits?
- Timing: When was the last fee hike done? This can be a positive if the fee is being raised after several years. Can the school look at phased fee increase?
- Limitation of resources: Does the school have resources to manage the suggested solution? Pay per use facilities, scholarship system, renting of school resources, etc.

Implement the Solution:

- Develop an action plan. Implementation requires a series of steps:
  - Planning
    - Creating a core team to implement - Not everything can be done by Mr. Thomas alone.
    - Identifying the resources needed by the implementing team: Support staff etc.
    - Setting the timelines for implementing team - Any delay in implementation can derail the process.
  - Keeping the school management informed about the solution and likely outcome.
- Determine objectives. Set the likely outcome, drive the team to achieve those and monitor the progress vs. the set targets.
- Identify needed resources. E.g. if the school decides to earn through public use of its resources, it may need to commit resources to manage this operation.
  - What resources do I need? (People to manage the operation)
  - Where will I get them? (Could be internal administrative team / outsourced?)
  - How long will it take? (How soon can the school get it started?)
  - What can others offer? (Need to benchmark the rate of facilities with the market rates)
  - Are there any special requirements? (Any district/ state clearances to be taken etc.)
- Build a plan. Plan should be made delegating / fixing various responsibilities, resource commitments, timelines and process (if required) etc.
- Implement the plan. Use the action plan to put the decision in place.

Case 2

Mr. Dilber is the head teacher of a school in Vaishalipuram. The pass percentage of the students of the senior-most class in the mid-term examination has fallen to 83% (vs. 95% plus pass percentage over last 5 years). Mr. Dilber has to submit a report to the school management on the mid-term performance of the school. Thus, he needs to assess why there is a down fall in the results as well as how he intends to address the problem. He has one week time to build his case with corrective measures taken.

Case Analysis

Step 1 - Mr. Dilber digs deep into the issue to understand the exact problem. For that he did the analysis of:

- Subject teacher-based pass percentage of the students
    - Attendance records of the teachers
    - Attendance records of the students
    - Performance records of the students during the year.
    - Relative complexity of the question papers in 2003 vis-à-vis previous years

Step 2 - Based on the analysis, Mr. Dilber found out that maximum number of students failed in Mathematics. The class was taught by a newly appointed teacher, Mr. Gonsalves.

Step 3 - Post analysis, Mr. Dilber did the appraisal of Mr. Gonsalves. In his appraisal, Mr. Dilber:

- Checked the attendance records as well as the diary maintained by Mr. Gonsalves
- Checked the results of the unit tests to find out whether Mr. Gonsalves made extra efforts to help the students who did not perform well in the past
- Took qualitative feedback from the students on:
    - Their interest in mathematics subject, class sessions and progress on the syllabus
    - Their perception regarding the difficulty level of how they found the mid-term question paper
- Sat through the classes of Mr. Gonsalves over next three days to understand if there was a scope for improvement in the teaching method of the teacher and how to help the teacher.

Step 4 - On the basis of the above exercise, Mr. Dilber found that the concerned teacher lacked sufficient knowledge and experience to teach the senior most class.

Step 5 - In his report to school management, Mr. Dilber spelt out his assessment of the results and shared the corrected steps taken by him.

- Giving the responsibility of teaching the senior most class to a teacher of junior class who had proven record of consistent performance.
- Arranging orientation programme for the newly appointed teacher.

Activity

Think of a problem situation in your school and then prepare a checklist to identify and define the problem. The checklist must have a set of questions that can help you identify and define a problem accurately.

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9.8 LET US SUM UP

In this unit, we have discussed the concepts of decision making, problem solving and different approaches to problem solving. We have also discussed the importance of decision making, the process involved and different styles of decision making and how decision making is helpful in every day life. Examining the attributes and characteristics of effective decision makers may help you to realise your strengths and weaknesses as a decision maker. We have discussed problem solving model with the hope that it may help you to develop problem solving models as and when you need to do so.

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